

III. REMARKS

Claims 13-14, 16, 18-19 and 21-24 are pending in this application. By this Amendment, claim 13 has been amended and claim 17 has been cancelled. The above amendments and the following remarks are being made to facilitate early allowance of the presently claimed subject matter. Applicants do not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the above amendments and following remarks is respectfully requested.

Entry of this Amendment is proper under 37 C.F.R. §1.116(b) because the Amendment: (a) places the application in condition for allowance as discussed below; (b) does not raise any new issues requiring further search and/or consideration; and (c) places the application in better form for appeal. Accordingly, Applicants respectfully request entry of this Amendment.

Applicants submit that this Amendment merely combines the exact limitations of the independent claim 13 and the original dependent claim 17 to form the currently amended independent claim 13, and cancels the original dependent claim 17. No new matter has been added. Applicants respectfully request withdrawal of the rejections that are not supported by the cited prior art references.

In the Office Action, claims 13-14, 16-18 and 21-23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wallace et al. (USPN 6,277,681), Summerfelt et al. (USPN 5,609,927) and Muralidhar et al. (USPN 6,297,095); and claims 19 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wallace et al., Summerfelt et al. and Muralidhar et al., and further in view of Thakur et al. (USPN 5,913,149). Applicants respectfully submit that

the claimed subject matter is allowable and thus respectfully request withdrawal of the rejections for the reasons stated below.

With regard to claim 13, the combination of references fails to disclose or suggest each and every claimed feature. The current invention includes, *inter alia*, "the ultra-high vacuum is at no less than approximately 10^{-11} Torr and no greater than approximately 10^{-8} Torr when idle and no less than approximately 10^{-6} Torr and no greater than approximately 10^{-2} Torr during silicon nitride deposition[,]" as recited in claim 13. (Emphasis added). The Office asserts that Wallace et al. disclose this feature by teaching "generating a second layer 17 of silicon nitride in an ultra-high vacuum (between 10^{-6} to 10^{-2} Torr) and a thickness between 3Å and 8Å[.]" Office Action at page 3. Applicants respectfully traverse this assertion because the asserted teaching of Wallace et al., even if assumed correct for argument sake, misses features of the current invention. Specifically, as exemplified by the Office's above citation, Wallace et al. only disclose vacuum pressure during silicon nitride deposition. *See* col. 4, lines 12-16, "[t]he substrate was placed in a reaction chamber which was purged and then filled with ammonia gas at a pressure of 1×10^{-6} Torr at a temperature of 900°C for 4 minutes to form the first dielectric layer of crystalline silicon nitride 13"; and claim 3 of Wallace et al., "generating a second layer 17 of silicon nitride in an ultra-high vacuum (between 10^{-6} to 10^{-2} Torr) and a thickness between 3Å and 8Å". Wallace et al. do not disclose or suggest, *inter alia*, "the ultra-high vacuum is at no less than approximately 10^{-11} Torr and no greater than approximately 10^{-8} Torr when idle[.]" as the current invention does.

In addition, Applicants submit that the Office misinterprets Wallace et al. In Wallace et al., "said step of forming said dielectric layer of crystalline silicon nitride comprises the steps of placing said surface in an ammonia ambient at a pressure of from 1×10^{-7} to about 1×10^{-5} Torr[.]"

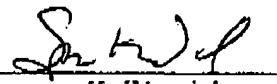
Claim 3 of Wallace et al. (emphasis added). It is incomprehensible how the Office can interpret Wallace et al. as disclosing "an ultra-high vacuum (between 10^{-6} to 10^{-2} Torr)[.]" Office Action at page 3. In particular, 1×10^{-7} Torr is clearly beyond the range of between 10^{-6} to 10^{-2} Torr. The Office does not address this shortcoming.

Summerfelt et al. and Muralidhar et al., either separately or in combination, do not overcome this deficiency of Wallace et al. In view of the foregoing, Wallace et al., Summerfelt et al. and Muralidhar et al. do not render the current invention obvious. Accordingly, Applicants respectfully request withdrawal of the rejections.

The dependent claims are believed allowable for the same reasons stated above, as well as for their own additional features.

Applicants respectfully submit that the application is in condition for allowance. Should the Examiner believe that anything further is necessary to place the application in better condition for allowance, he is requested to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



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